Conformity Assessment Systems in Transition: A Successful Formula for Mutual Recognition Agreements

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Note: The views expressed in this presentation are those of the author and may not necessarily represent the views of the Federal Communications Commission

Outline

- **FCC Overview**

- **Strategic Plan**

- **Equipment Authorization Program**

- **Mutual Recognition Agreements**

- **Challenges for Successful MRAs**

FCC Overview

FCC Overview

The FCC was established by the Communications Act of 1934 and is charged with regulating interstate and international communications by radio, television, wire, satellite and cable. The FCC's jurisdiction covers the 50 states, the District of Columbia, and U.S. possessions.

FCC Headquarters
445 12th St., SW
Washington, DC 20554

FCC Web Site:
www.fcc.gov

Chairman
Kevin Martin

Commissioner
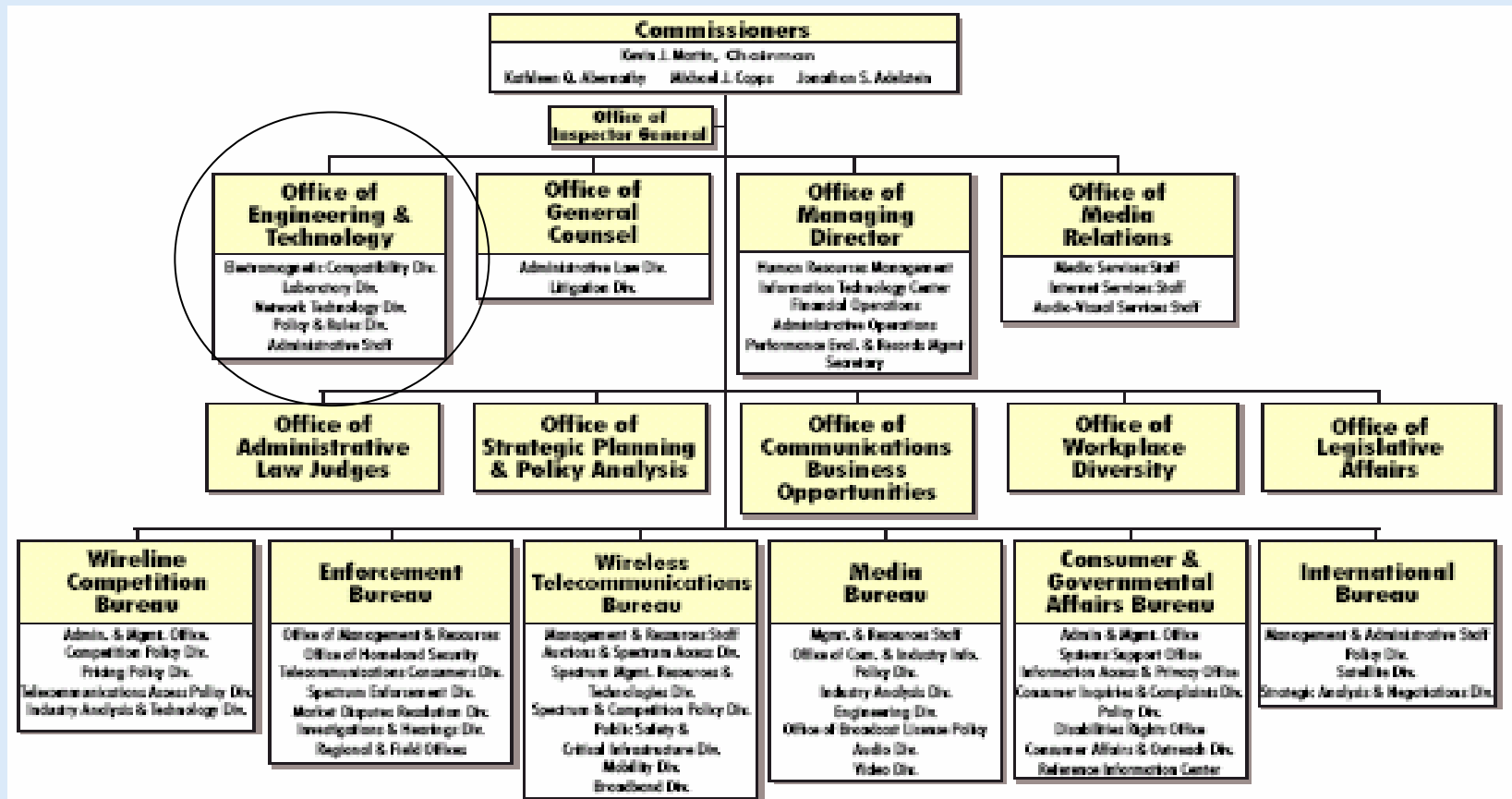**Michael Copps**

Commissioner
Kathleen Abernathy

Commissioner
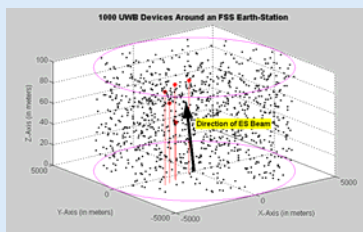**Jonathan Adelstein**

FCC Organization

Office of Engineering and Technology

OET's Principal Functions:

- Spectrum Management
- Technical Research and Analysis
- Authorization of Service
- Network Reliability and Technology
- Technical Education

FCC Laboratory
Columbia, Maryland

FCC Strategic Plan

FCC Strategic Goals

- **FCC Public Notice released on 7/5/05 invited comment on strategic goals for 2006 – 2011 – "Work in Progress"**

Strategic Goals:

- **BROADBAND** - *All Americans should have affordable access to robust and reliable broadband products and services. Regulatory policies must promote technological neutrality, competition, investment, and innovation to ensure that broadband service providers have sufficient incentive to develop and offer such products and services.*

- **COMPETITION** - *Competition in the provision of communications services, both domestically and overseas, supports the Nation's economy. The competitive framework for communications services should foster innovation and offer consumers reliable, meaningful choice in affordable services.*

- **SPECTRUM** - *Efficient and effective use of non-federal spectrum domestically and internationally promotes the growth and rapid deployment of innovative and efficient communications technologies and services.*

- **MEDIA** - *The Nation's media regulations must promote competition and diversity and facilitate the transition to digital modes of delivery.*

- **PUBLIC SAFETY AND HOMELAND SECURITY** - *Communications during emergencies and crises must be available for public safety, health, defense, and emergency personnel, as well as all consumers in need. The Nation's critical communications infrastructure must be reliable, interoperable, redundant, and rapidly restorable.*

- **MODERNIZE THE FCC** - *The FCC shall strive to be a highly productive, adaptive, and innovative organization that maximizes the benefit to stakeholders, staff, and management from effective systems, processes, resources, and organizational culture.*
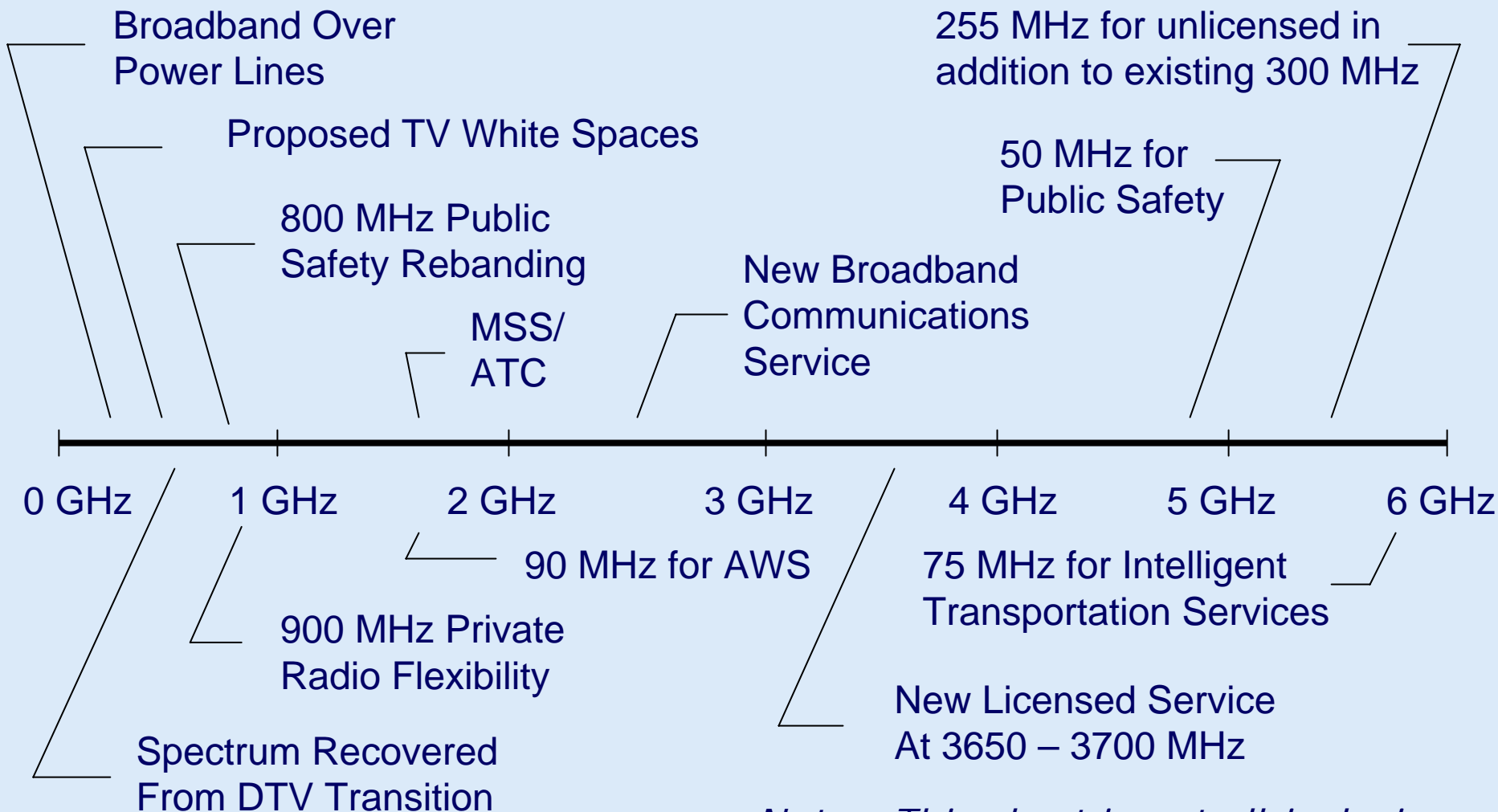
Spectrum Policy Objectives

- Develop, advocate, and implement flexible, market-oriented spectrum allocation and assignment policies

- Develop policies that promote efficient and effective use of the spectrum, such as accommodating shared use of the spectrum, exploring new licensing models that reduce entry barriers, fostering interoperability for public safety, minimizing harmful interference, and encouraging the development of new technologies such as software defined radio, cognitive radio, dynamic frequency selection, and new protocols

- Conduct effective and timely licensing activities relying on advanced electronic filing and electronic information access systems

- Delineate spectrum rights and responsibilities

- Vigorously enforce spectrum regulations and policies

Technologies & Standards

- **FCC focuses on minimal standards to control harmful interference – technology neutral**

- **Additional public policy objectives:**
  - Public safety interoperability
  - E-911
  - RF Safety
  - Disability access (hearing aid compatibility, closed captioning)

- **Protocols left to industry:**
  - Licensed: CDMA, GSM, UMTS, Wi-Max, etc.
  - License-exempt: Wi-Fi, Bluetooth, Zigbee, UWB, RF – ID, etc.

- **Model has been highly successful!**

Equipment Authorization Program

Equipment Authorization Program

- **The FCC currently has four equipment approval programs**
    - Verification
    - Supplier Declaration of Conformity (SDoC)
    - Declaration of Conformity (DoC)
    - Certification

- **The product approval requirement is specified in the rule part under which equipment operates**

- **All four programs involve the use of the private sector to varying degrees**

Maximum

Minimum

Level of Oversight

Certification (Third Party Approval)

DoC (Self-approval using an accredited lab)

SDoC (Self-approval Database by ACTA)

Verification (Self-approval)

FCC Authorization Requirements

Verification	SDoC	DoC	Certification
Most ISM Equipment		Cable System Term. Device	Cable System Term Device
TV & FM Receivers		PC's & Peripherals	*PC's & Peripherals*[1]
All Other Digital Devices		Most Receivers	Most Receivers
Pt-to-Pt Microwave		TV Interface Devices	TV Interface Devices
Broadcast Transmitters		Consumer ISM Equipment	Consumer ISM Equipment
Aux. Broadcast Transmitters	Telephone Equipment		*Telephone Equipment*[1]
INMARSAT Equipment			Most transmitters
406 MHz ELT			Scanning Receivers
CATV Relay Transmitters			

(1) The FCC Lab no longer certifies this equipment. However, this equipment may be certified by a TCB.

Marketing Rules

Non-compliant equipment
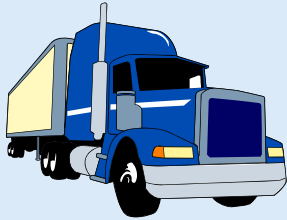
Products must comply with FCC technical and equipment authorization requirements before they can be legally shipped, sold, imported or offered for sale in the USA
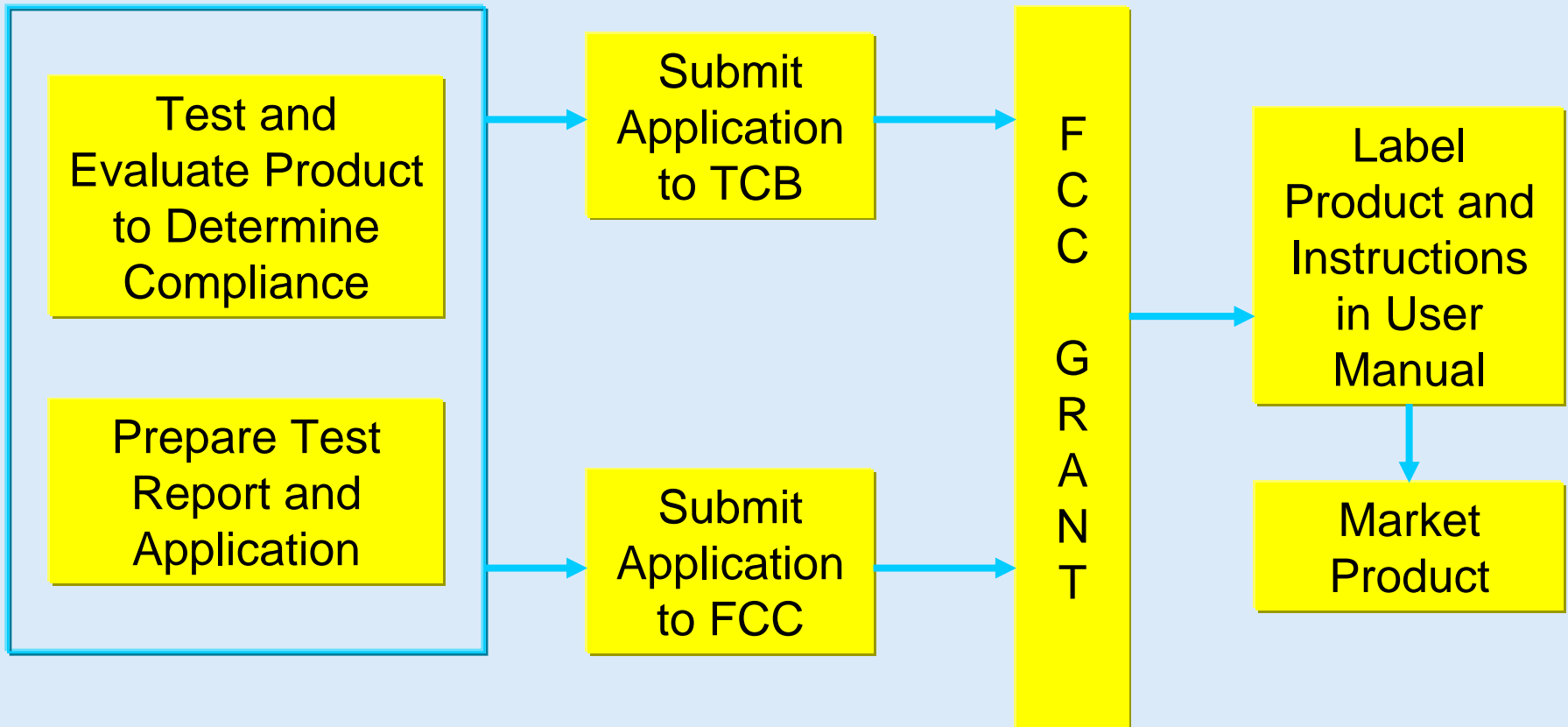
Equipment Authorization: TCBs & MRAs

- **Landmark FCC Order in 1998 streamlined the equipment authorization program**

- **Empowered Telecommunications Certification Bodies (TCBs) to certify equipment (same as FCC)**

- **Provided for TCBs outside the U.S. conditioned on Mutual Recognition Agreements (MRAs)**

- **Provided for recognition of accredited labs outside the U.S. for DoC (later SDoC) conditioned on MRAs**

Certification Options

```
┌─────────────────────┐
│  Test and           │──────→  Submit
│  Evaluate Product   │         Application  ──────→  ┌─────┐
│  to Determine       │         to TCB               │  F  │
│  Compliance         │                              │  C  │
│                     │                              │  C  │──────→  Label
│  Prepare Test       │                              │     │         Product and
│  Report and         │──────→  Submit               │  G  │         Instructions
│  Application        │         Application  ──────→  │  R  │         in User
└─────────────────────┘         to FCC               │  A  │         Manual
                                                      │  N  │            │
                                                      │  T  │            ↓
                                                      └─────┘         Market
                                                                      Product
```

Mutual Recognition Agreements

What is an MRA?

Government to Government Agreement

☞ **Mutually agree to accept**

  - **Test results**
  - **Product approvals**

Note: Same standards __not__ required

Standards

Why MRAs?

Facilitate trade

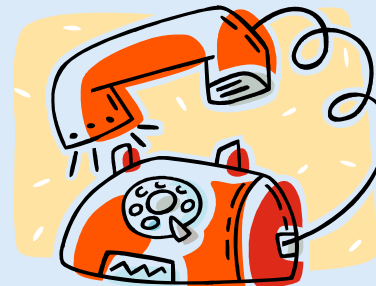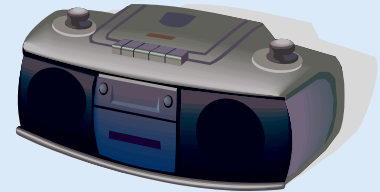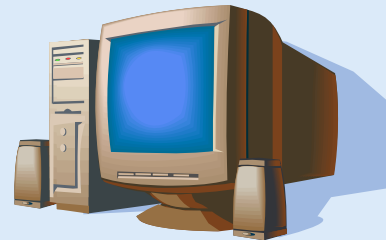**Accelerate time to market**

Reduce burdens on suppliers

Ensure product compliance

MRA Scopes for Telecommunications Equipment

- **EMC**

- **Radio Transmitters**

- **Terminal Equipment**

Mutual Recognition Agreements

- **Today MRAs with EU, APEC and CITEL are in place covering most of the World**

- **Phase 1 (acceptance of test data) and/or Phase 2 (acceptance of product approvals) letters exchanged or near with several economies**

Impact of TCBs

**30 TCBs designated thus far
11 of which are outside the U.S.**

Legend:
- Authorized by FCC
- Authorized by TCBs
- Total New Authorizations
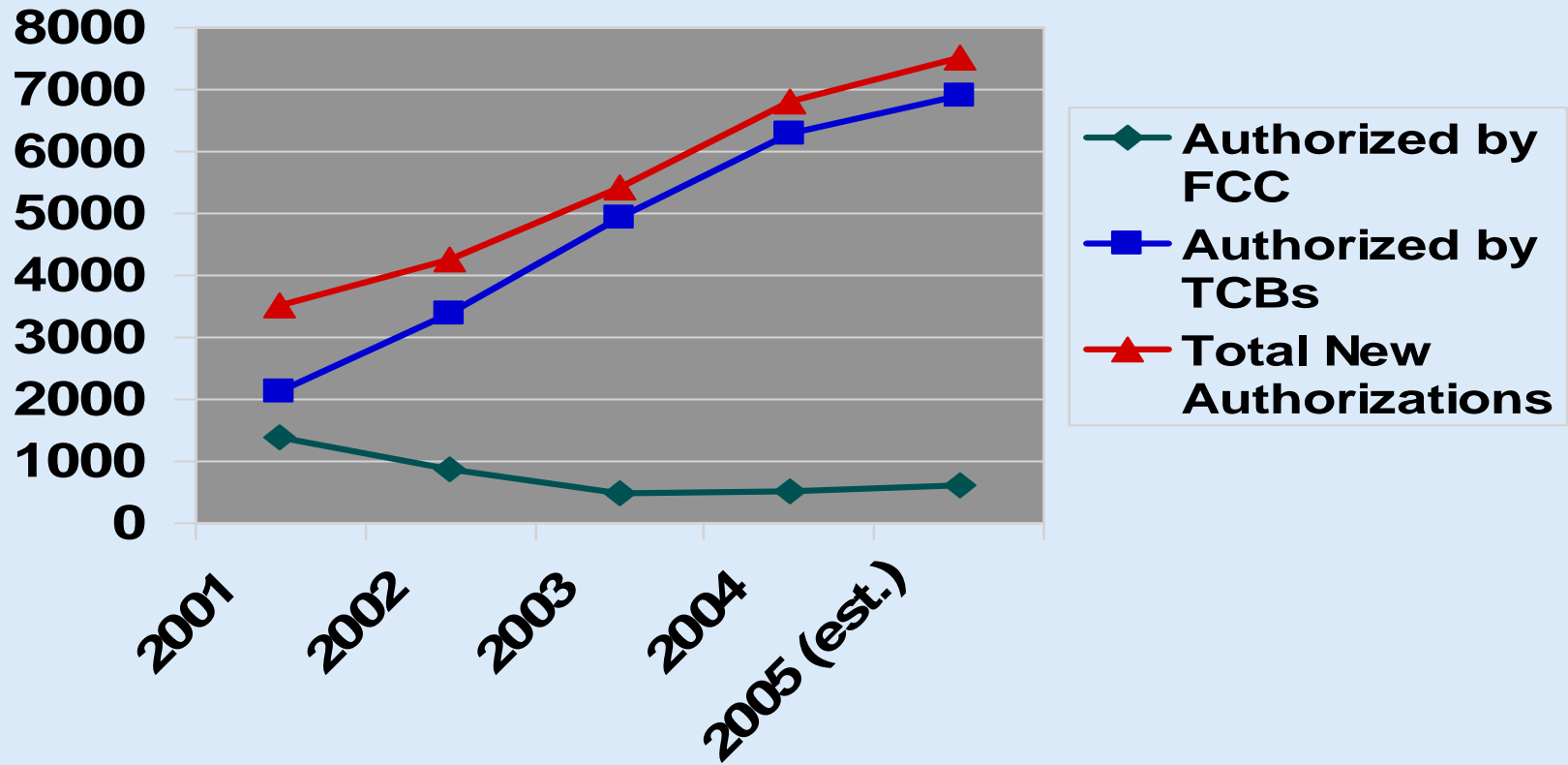
Nearly 90 % of All Certifications Are Granted by TCBs!

Conformity Assessment Challenges

Conformity Assessment Challenges: Regulatory Certainty

- **Rules must be available, clear & consistent**

- **Rules preferably based on international standards**

- **Rule Interpretations:**
  - Process should be clear & expeditious
  - Decisions should be openly available

- **FCC Actions:**
  - Rules developed in a transparent process
  - Rules are available on FCC web-site
  - Interpretations are available on FCC web-site
  - FCC Lab is developing a knowledge data base

Conformity Assessment Challenges: Assessing Competency

- **Need for continual improvement of TCB competency evaluation & designation processes**
  - Must assure competency without undue burdens
  - Ongoing challenge to find suitable assessors
  - Need for ongoing interaction between assessor and designating bodies
  - Should consider past performance

- **Need for ongoing oversight:**
  - Provide feedback to TCBs
  - Needs to be expedient and fair
  - Revocation process not yet tested

FCC Action: Ongoing dialogue with assessors and with TCBs

Conformity Assessment Challenges: Devices Are Becoming More Complex

Past products generally contained a single RF device. Trend is to include multiple RF devices in a product.

Potentially raises questions as to appropriate test methodology and relevant standards.

RF ID Reader & Wireless Transmitter
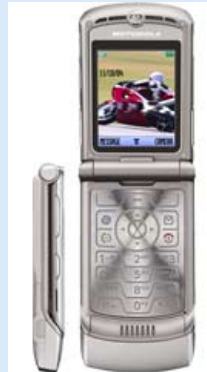
Cell Phones With Bluetooth & Wi-Fi & UWB

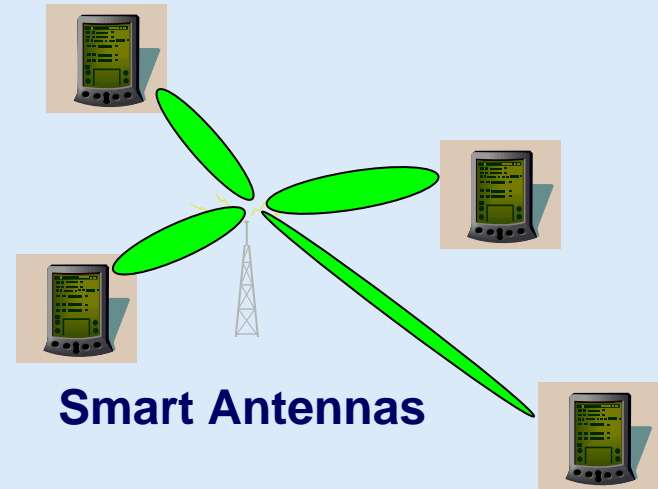**Laptops With Wi-Fi & WiMax**

FCC Actions: TCB Workshops

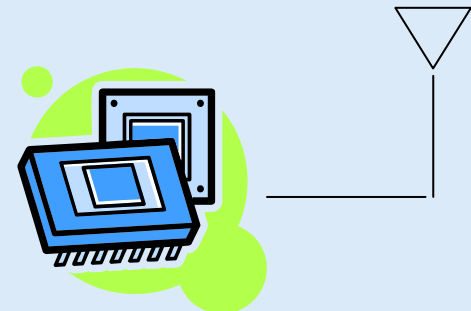# Conformity Assessment Challenges: Keeping Pace with Technology

Ultra-Wideband Devices

Smart Antennas

Dynamic Frequency Selection

Cognitive Radio

FCC Action: Certification of new technologies initially only by FCC (or close oversight).

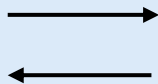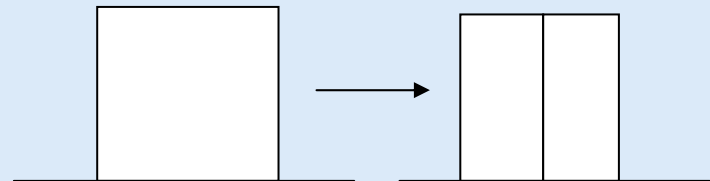# Conformity Assessment Challenges: Social & Other Requirements

RF Exposure

Public Safety Interoperability

E-911 Location Capability

Hearing Aid Compatibility

Narrowbanding

FCC Action: Certain Policy Objectives are being implemented through the equipment authorization program

Conformity Assessment Challenges: Formula For Success

- **Continue progress in implementing MRAs**

- **"Globalize" MRAs to the extent possible**

- **Information Exchange**

- **Consider ways to reduce required resources**

- **Confidence-building: Make it work!**

Thank you!

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